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No. TC / BBMP / RI / YLK-PMC / 315 / 18 – 19

Date: 29.03.2019

To
The Executive Engineer (Project Division)
Yelahanka Zone,
Bruhat Bangalore Mahanagara Palike,
Bangalore.

Dear Sir

Sub: **First and Final bill for the work of Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli.**

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **First and Final Bill** submitted by **M/s KRIDL, Bangalore**, towards the above said work and arrived at an amount of **Rs. 4854401.15/-(Rupees Forty Eight Lakh Thirty Four Thousand Four Hundred One and Paise Fifteen Only**). The work has been completed satisfactorily.

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

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For Tejus Consultants
(Shashidhar)

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Name of the work: Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli

Contractor/Agency : M/s KRIDL

Name of the Client : BBMP

Estimated Cost : 50.00Lakhs

Status of Bill : 1st and Final Bill

In the Presence of : (a)Mr. Sundresh G K
Assistant Engineer, BBMP, Bangalore.
: (b)Mr. Chandrashekhar B. V
Assistant Executive Engineer, BBMP, Bangalore
: (c) Mr. Shivunaika B Site Engineer
M/s Tejus Consultants

Item No	Description of Item of Work	Comments/observation
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Work done up to the billed quantity and quality is satisfactory
2	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Work done up to the billed quantity and quality is satisfactory

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3	KSRB 4-6.4: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surfaces such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specifications. Specification No.KBS 4.6.2 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Work done up to the billed quantity and quality is satisfactory
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of Design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.460 cum, with super plasticisers @ 3 liters confirming to is 9103-1999 reafirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls, return walls, walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks, anchor blocks & plinths etc., including cost of all materials, labour, HOM of machinery, curing, complete but excluding cost of reinforcement as per specifications. Specification No. KBS 4.1, 4.6	Work done up to the billed quantity and quality is satisfactory
5	KSRB - 4.9.2: Providing TMT steel Fe500 reinforcement for R.C.C work including straightening, cutting, bending, hooking, palcing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining memebrs wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Work done up to the billed quantity and quality is satisfactory
6	KSRB 5.2-3: Providing and constructing granite size stone masonry in foundation cement mortor 1:6, stone hammered dressed in courses not less than 20cms high, bond stones at 2m. apart in each course including cost of materaials, labour, curing complete as per specifications. Specifcation No. KBS 5.1.13. (P.No.25, I.No.5.6 of PW, P&IWTD S.R 2018-19)	Work done up to the billed quantity and quality is satisfactory

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7	KSRB 4-1.6: Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.459 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.13, I.No.4.6 of PW,P&IWTD S.R 2018-19)	Work done up to the billed quantity and quality is satisfactory
8	Providing and fixing RCC Precast cover slab of 100mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate) with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Work done up to the billed quantity and quality is satisfactory
9	Providing and fixing RCC Precast cover slab of 250mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Work done up to the billed quantity and quality is satisfactory
10	Providing granite slabs of selected quality roughly dressed havinf a size of 10 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. (P.No. 27, I.No. 5.31.2 of PWDSR 2018-19)	Work done up to the billed quantity and quality is satisfactory
11	KSRRB M200-12.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i) Lime /Cement Concrete. I. By Manual Means :B. Cement Concrete Grade M-15 & M-20. MORTH Specification No. 202. (P.No. 139, I.No. 18.18 of CSR 2018-19)	Work done up to the billed quantity and quality is satisfactory

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12	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2018-19)	TEJUS CONSULTANTS Work done up to the billed quantity and quality is satisfactory
13	Cement concrete pavement.Construction of un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base with OPC cement or any other type as per clause 1051.2.2 design mix M20/M30 , with 25mm and down size graded granite metal coarse aggregates and fine aggregtes , with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 , mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints including groove cutting charges, joint filler, separation membrane, selant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades as per drawing complete as per specifications. - M20 (at 300Kg per cum coarse aggregate @ 0.64cum and fine aggregate @ 0.43cum) ((P.No.176, I.No.22.6.2 of PW,P&IWTD SR 2018-19)	Work done up to the billed quantity and quality is satisfactory
14	Vaccum de-watering with vaccum pump and suction mat and compaction with skin floater clubbed with floating disc including cost of generator, HOM of machinery, Screed Vibratory, Power Floater, blade and disc etc., with all lead and lift.(P.No.174, I.No.22.7 of PW, P&IWTD SR 2018-19)	Work done up to the billed quantity and quality is satisfactory
15	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.155, I.No.20.18 of PW,P&IWTD SR 2018-19)	Work done up to the billed quantity and quality is satisfactory

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16	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN ALL KINDS OF SOIL MIXED WITH BOULDERS of 30 cms size, etc. for: Pipes of all dia. for depth upto 2.0 M in all types of soils Note : If any shoring and strutting, will be paid separately (BWSSB SR 17-18, P.51, I No.1.1-A050A)	TEJUS CONSULTANTS Work done up to the billed quantity and quality is satisfactory
17	Supplying, lowering, laying, jointing, testing and commissioning of Glazed Stone Ware Pipes of following dia, conforming to IS 651:1992, IS 4127 with latest amendments, including conveying to work site, caulking with hemp dipped in tar and jointing with CM 1:1.5 using OPC, perfect linking and curing for 10 days and testing with water etc. with all lead, lifts and as per Technical Specifications. The cost to include the cost of all jointing materials, necessary survey works for laying of sewer lines etc. complete. The contractor will make own arrangements for procuring water for testing. 230 mm dia. pipes(BWSSB SR 17-18, P.157 I.No 3.4 T030D)	Work done up to the billed quantity and quality is satisfactory
18	Labour charges for laying and jointing glazed stone ware pipes of 0.6m length and of specified dia., of tested quality conforming to IS 651 of 1965 including caulking with hemp yarn, jointing with CM 1:2 and testing with water etc. complete for: (Rate to include cost of jointing materials and transportation of pipes from store work site but excluding the cost of earth work) - Glazed Stone Ware pipe of 230 mm dia (P.No 159 I .No.7.3 BWSSB 2017-18)	Work done up to the billed quantity and quality is satisfactory

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19	Supplying lowering laying, jointing, testing and commissioning of following diameters glazed stone ware pipes, conforming to IS 651:1992, (with 5th revision) in all respects jointing with EPDM rubber rings (seals according to EN 681 & ASPM 425) The rubber seals joints pipe will have groves in interior of socket and exterior of the spigot. The rubber gasket shall be prefixed at the factory by the manufacturer rigidly with approved glue to have leak proof joint including conveying of pipe to work site and rolling and lowering into trenches, laying true to line, level and perfect linking at joints testing and commissioning including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of GSW pipes and specials, with rubber gaskets conforming to EN 681 and ASTM C-425 including cleaning the socket and spygot with soap solution and applying talcum powder for detecting crack, then applying glue and before inserting of rubber gaskets, jacking and fixing in perfect condition including the cost of soap solution, talcum powder and glue etc. and giving necessary hydraulic test to the required pressure of water head with all lead and lifts including costing of jointing materials and all necessary survey works for laying of sewers etc., and disposal of debris as directed etc., complete. (Contractor will make his own arrangements for procuring for testing) with Rubber ring gasket joints (BWSSB SR 2017-18, P-158 I-4.1, T040A)	Work done up to the billed quantity and quality is satisfactory
20	Refilling pipeline and foundation with selected trenches available earth form trench excavation and foundation inlcuding 5 watering, consolidation in layers of 15cms., thickness including disposing off the surplus earth with all leads & lifts.(BWSSB SR 2016-17, P-9 I-2)	Work done up to the billed quantity and quality is satisfactory
21	Dismantling the damaged or collapsed manhole of 4" dia conical in shape and reconstructing the same with machine made wire 6 brick in CM (1:4) as per design and specification of new cut manhole 4" dia with old frame and cover excluding bed concrete 13.6 (BWSSB SR 2016-17, P-97, I-92 MTR DEPTH)	Work done up to the billed quantity and quality is satisfactory

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22	Providing and constructing "WIRE CUT BRICK MANHOLE CHAMBERS" using suplhate resistant cement, coNickel in shape at top, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside where the plaster thickness shall be 20 mm. Slope inside to be 1:6 in the concrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for:. (inclusive of earthwork for all types of soil) (BWSSB SR 2017-18, P-168 I-T300) **For 1.2 m depth (I No. T300C)**	Work done up to the billed quantity and quality is satisfactory
23	Providing and constructing "WIRE CUT BRICK MANHOLE CHAMBERS" using suplhate resistant cement, coNickel in shape at top, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside where the plaster thickness shall be 20 mm. Slope inside to be 1:6 in the concrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for:. (inclusive of earthwork for all types of soil) (BWSSB SR 2017-18, P-168 I-	Work done up to the billed quantity and quality is satisfactory

	T300) **For 1.4 m depth (I No. T300E)**	TEJUS CONSULTANTS
24	Providing and constructing "WIRE CUT BRICK MANHOLE CHAMBERS" using suplhate resistant cement, coNickel in shape at top, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside where the plaster thickness shall be 20 mm. Slope inside to be 1:6 in the concrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for:. (inclusive of earthwork for all types of soil) (BWSSB SR 2017-18, P-168 I-T300) **For 1.6 m depth (I No. T300G)**	Work done up to the billed quantity and quality is satisfactory
25	Disposong off the excess excavated earth of all type up to a distance mentioned Every Km beyond 5 KM 8 Considering 10 Km below by vehicle including loading unloading with all lifts labour HOM of machinery etc., complete (BWSSB SR 2016-17, Pg-10, Item-7)	Work done up to the billed quantity and quality is satisfactory
26	Hire Charges for 2HP dewatering pump to bail out water at leaking pits inclusive of hire charges etc, complete Rs.1300/- per day of 8hours shift per day (BWSSB SR 16-17 Sl.No-4, P-34)	Work done up to the billed quantity and quality is satisfactory

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